



INVESTIGATOR'S ANNUAL REPORT

United States Department of the Interior
National Park Service

All or some of the information you provide may become available to the public.

OMB # (1024-0236)
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Reporting Year: 2006	Park: Shenandoah NP	Select the type of permit this report addresses: Scientific Study	
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Additional investigators or key field assistants (first name, last name, office phone, office email)			
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Project Title (maximum 300 characters): MAHA (Mid-Atlantic Highland Streams Assessment) mercury study			
Park-assigned Study or Activity #: SHEN-00323	Park-assigned Permit #: SHEN-2006-SCI-0006	Permit Start Date: May 01, 2006	Permit Expiration Date: Jun 30, 2006
Scientific Study Starting Date: May 01, 2006		Estimated Scientific Study Ending Date: Jun 30, 2006	
For either a Scientific Study or a Science Education Activity, the status is: Completed		For a Scientific Study that is completed, please check each of the following that applies: <input checked="" type="checkbox"/> A final report has been provided to the park or will be provided to the park within the next two years <input type="checkbox"/> Copies of field notes, data files, photos, or other study records, as agreed, have been provided to the park <input type="checkbox"/> All collected and retained specimens have been cataloged into the NPS catalog system and NPS has processed loan agreements as needed	
Activity Type: Research			
Subject/Discipline: Water Quality			

Purpose of Scientific Study or Science Education Activity during the reporting year (maximum 4000 characters): MAHA (Mid-Atlantic Highland Streams Assessment)
<p>As part of the USEPA Environmental Monitoring and Assessment Program (EMAP), mid-Atlantic states were sampled in 1993 and 1994. The sites were sampled for fish tissue to make regional estimates of the extent of contaminants including mercury. The current project would focus on resampling a subset of the original sites. Two species of fish (blacknose dace and white sucker) will be collected and analyzed for mercury concentrations. The goal of the project is to determine if levels of mercury have increased or decreased in the 12-13 years since the original sampling and analysis. Water samples will be collected at each site. Water samples will be analyzed for pH, conductivity, sulfate, nitrate, calcium, magnesium, sodium, potassium, DOC, total phosphorus, total nitrogen, ammonium, and total and organic monomeric aluminum.</p>

Report generated from original MAHA data:

EPA 2000. Mid-Atlantic Highlands Streams Assessment. EPA/903/R-00/015. US Environmental Protection Agency Region 3. Philadelphia, PA

Findings and status of Scientific Study or accomplishments of Science Education Activity during the reporting year (maximum 4000 characters):

Blacknose dace (*Rhinichthys atratulus*) and brook trout (*Salvelinus fontinalis*) were collected from Ragged Run (Old Rag Mountain quad in Madison Co.) using a battery powered backpack electroshocking unit. Seventy-five blacknose dace and 34 brook trout were collected from the stream on May 25, 2006. Five blacknose dace were frozen and shipped to the USEPA in Corvallis, OR for analysis. All remaining fish were returned to the stream unharmed.

For Scientific Studies (not Science Education Activities), were any specimens collected and removed from the park but not destroyed during analysis?

No

Funding specifically used in this park this reporting year that was provided by NPS (enter dollar amount):
\$0

Funding specifically used in this park this reporting year that was provided by all other sources (enter dollar amount):
\$500

List any other U.S. Government Agencies supporting this study or activity and the funding each provided this reporting year:

Paperwork Reduction Act Statement: A federal agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. Public reporting for this collection of information is estimated to average 1.625 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the forms. Direct comments regarding this burden estimate or any aspect of this form to Dr. John G. Dennis, Natural Resources (3127 MIB), National Park Service, 1849 C Street, N.W., Washington, DC 20240.